AKR1
200m2 Waiting Room Hearing Loop Kit

Overview
Includes a PDA200E hearing loop amplifier and APL line level audio input plate (for connecting to a paging system) and 6m of Belden cable.
Ideal for creating a high quality hearing loop system for a waiting room.
Wall-mountable PDA200E amplifier capable of driving a perimeter loop of up to 200m2.
Internal drive, level and metal compensation controls.
Two balanced / unbalanced line level inputs.
One microphone input with 12V phantom power for electret microphones.
Full compatibility with the Outreach plate audio input extension system.
Fully compliant with BS EN 60118-4 when correctly installed.
Loop cable not included-use our LOOP2W1mm2 cable or download our AFILS loop calculator from our Software & Apps page for more precise recommendations.

Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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<tbody>
<tr>
<td>Type</td>
<td>Wall mounting. Requires fixed Mains wiring.</td>
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<tr>
<td>Coverage</td>
<td>200m2 approx.</td>
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<tr>
<td>Mains supply</td>
<td>230V 50/60Hz.</td>
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<tr>
<td>Auxiliary inputs</td>
<td>1 Microphone and 2 x Line/Outreach screw connectors (on PDA200E).</td>
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<tr>
<td>Indicators</td>
<td>Input level; loop current meter (peak 3, 2, 1); compression; power on.</td>
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<tr>
<td>Controls</td>
<td>Input level; loop drive, metal compensation.</td>
</tr>
<tr>
<td>Product dimensions (mm)</td>
<td>W 271 x H 200 x D 77mm (amplifier only).</td>
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<tr>
<td>Construction &amp; finish</td>
<td>White painted steel (PDA200E); plastic (APL).</td>
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<tr>
<td>IP Rating</td>
<td>IP20.</td>
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<tr>
<td>Weight</td>
<td>2.9 kg (amplifier only).</td>
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<tr>
<td>Operating conditions/temperature</td>
<td>-5°C to +40°C. Max relative humidity: 95%.</td>
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<tr>
<td>Kit contents</td>
<td>PDA200E 200m2 hearing loop amplifier; APL line level audio input plate; 1 x 6m Belden cable; Loop Fitted sticker. Loop cable IS NOT included.</td>
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</table>
The PDA200E has revolutionised the induction loop marketplace by bringing the ability to understand, install and appreciate the technology involved to a whole new client base.

Straightforward internal screw connectors and preset controls mean no specialist audio experience or audio connectors are required. By following the simple set-up procedure, no further adjustments are necessary, allowing a top quality assistive listening system for the hard of hearing to be set-up in its entirety by new and experienced installers alike.

No less than four easy-to-access inputs are provided:
- Balanced/unbalanced mic (with phantom power for use with electret mics).
- Balanced/unbalanced line (for the connection of TV and other audio feeds).
- Alert tone switch (a tone generator for use with doorbells, fire alarms, etc).
- 100V line (for the connection of PA system audio feeds).

The amplifier's state-of-the-art current drive audio processing circuitry includes an automatic compressor/limiter which maintains the loop signal within a small dynamic range to improve intelligibility. Manual adjustments can also be made using the amplifier’s internal tamper-resistant drive, level and tone controls, allowing the system to be tailored to suit the exact requirements of any room.

Ideal for meeting rooms, lecture theatres, churches, schools, TV lounges, shops and other small to medium sized applications
Provides max. square room coverage of 120m² (11m x 11m) or max. rectangular room coverage of 250m² (10m x 25m)
Wall mountable for permanent installation – ideal for schools and colleges where rooms are often left unsupervised
Internal tamper-resistant drive, level and tone controls
One balanced/unbalanced microphone input
One balanced/unbalanced line level input
Alert tone switch input for doorbells, fire alarms, security systems, etc
100V line input for PA system connection
Fully automatic compressor-limiter
Full 2Ω drive capability for increased coverage at higher frequencies
Compatible with SigNET’s unique ‘outreach plate’ input extension system
Available in a variety of kit formats to suit a host of typical loop installations
Fully compliant with EN60118-4 (formerly BS6083) and BS7594:1993

For ease of specification and installation the PDA200E is available on its own or in the following kits formats:-
- AKM1 Meeting/seminar room kit
- AKR1 Waiting room kit
- AKT1 TV/Music lounge kit
- AKW1 Place of worship kit 1
- AKW2 Place of worship kit 2
- AKH1 Heath and fitness club kit
- AKL1 Lecture room kit
- AKU1 Retail unit kit

(The exact contents of each kit are listed overleaf)
POWER REQUIREMENTS
- Mains voltage: 230V ac
- Power consumption: <80VA
- Fuses: Internal mains input fuse 1A 20 mm (HRC)

The PDA200E requires fixed mains wiring fed from a 3A fuse spur located no more than 3m from the amplifier.

INPUTS
- Three 5mm screw connector inputs are available - mic., line & 100V. If more than one is used, the signals are mixed
  - MICROPHONE
    - Input impedance: 600Ω balanced/unbalanced
    - Phantom: 12V
  - LINE
    - Input impedance: >10kΩ balanced/unbalanced
    - Sensitivity: 0dbv (300mV rms to 1.5V rms)
  - 100V LINE
    - Input impedance: 200kΩ
    - Sensitivity: +40dbv

ALERT: Closing a volt-free switch across this input generates a 2kHz tone through the loop.

Should additional inputs be required, the PDA200E is compatible with SigNET's outreach plate input extension system. This allows up to ten extra mic or line level inputs to be daisy-chained to the PDA200E. See our separate datasheet for details.

OUTPUT
- Type: Current mode
- Loop connector: Screw connector
- Cable: 1.0-2.5mm²
- Loop coverage (square room): 120m² max. (e.g. 11m x 11m)
- Loop coverage (rectangular room): Up to 250m² when shortest side of loop is no greater than 10m (e.g. 10m x 25m)
- Loop drive current: 4A peak; 1.8A average
- Loop impedance: 0.2 to 2Ω @ 1kHz

PERFORMANCE
- Bandwidth: 40Hz to 8kHz
- Input dynamic range: 36dB
- Distortion: <0.5% THD

The PDA200E includes an amplitude compression stage that limits overload and has a dynamically variable ratio from 1:1 to 10:1

INDICATORS & CONTROLS
- LED indicators: Input peak (limit); output drive (1,2,3 peak current); power on (power)
- User controls: One level control, adjustable between -35dB to +0dB for both line and microphone
- One output drive control, giving a loop current adjustable between 40mA & 2.1A
- One mid-range cut & boost tone control (frequency = 1kHz; cut=-17dB: boost =+17dB)

DIMENSIONS & WEIGHT
- Width x Height x Depth / Weight: 273 mm x 200 mm x 77 mm / 2.9kg (unpacked)

PDA200E KIT VARIANTS
- AKM1 Meeting/seminar room kit: 1x PDA200E and 1x AMP Omni-directional plated microphone.
- AKR1 Waiting room kit: 1x PDA200E and 1x APL outreach plate (for the connection of paging systems).
- AKT1 TV/music lounge kit: 1x PDA200E, 1x AMH handheld microphone c/w APJ outreach connection plate and 1x APL lectern microphone c/w APJ outreach connection plate.
- AML Lecture kit: 1x PDA200E, 1x AMR radio microphone c/w APL outreach plate (for the connection of existing microphones)
- AKW1 Place of worship kit 1: 1x PDA200E, 1x AML lectern microphone c/w APJ outreach connection plate and 1x APL outreach plate (for the connection of existing microphones).
- AKW1 Place of worship kit 2: 1x PDA200E, 1x APL lectern microphone c/w APJ outreach connection plate and 1x APL outreach plate (for the connection of existing microphones).
- AKU1 Retail Unit kit: 1x PDA200E and 1x AML lectern microphone c/w APJ outreach connection plate.
- AKH1 Heath and fitness club kit: 1x PDA200E, 1x AMR radio microphone c/w APL outreach plate (for the connection of existing microphones)

Approved Doc. No. DD500202. Rev. 1. SigNET operates a policy of continuous improvement and reserves the right to alter product specifications at its discretion and without prior notice. E&OE.